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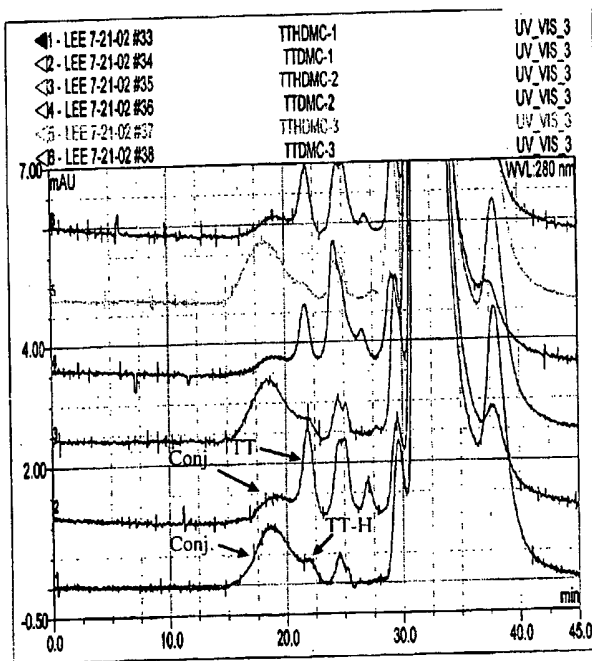
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(54) Title: POLYSACCHARIDE-PROTEIN CONJUGATE VACCINES

Comparison between conjugation Method A and conventional reductive amination conjugation by HPSEC at 280 nm using a Waters Ultrahydrogel 2000 column



(57) Abstract: Abstract of the Disclosure Methods for synthesis and manufacture of polysaccharide-protein conjugate vaccines at high yield are provided. The methods involve reaction of a hydrazide group on one reactant with an aldehyde or cyanate ester group on the other reactant. The reaction proceeds rapidly with a high conjugation efficiency, such that a simplified purification process can be employed to separate the conjugate product from the unconjugated protein and polysaccharide and other small molecule by-products.



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